

**IN THE DRAWINGS:**

The attached sheets of drawings includes changes to Figs. 3 and 4. Fig. 3 has been amended to depict a controller, a temperature sensor and a refresh circuitry. As far as original support for the temperature sensor and the controller is concerned, support can be found in the specification at least, for example, at Para. [0031], lines 1 to 6. With respect to the refresh circuitry, support can be found in the specification at least, for example, at Para. [0031], lines 3 to 7. Previous Fig. 4 has been replaced with new Figs. 4A and 4B. Reference numbers 304 and 306 have been introduced into the new Figs. 4A and 4B as requested by the Examiner.

**Attachment:            Replacement Sheets**  
**Annotated Sheets Showing Changes**

## REMARKS

This is intended as a full and complete response to the Office Action dated March 31, 2006, having a shortened statutory period for response set to expire on June 30, 2006. Please reconsider the claims pending in the application for reasons discussed below.

Claims 1-30 are pending in the application. Claims 1-30 remain pending following entry of this response. Claims 1, 11, 20, and 25 have been amended. Claims 2, 4, 12, 21, 22, 23, 24, and 27 have been cancelled without prejudice. Applicants submit that the amendments do not introduce new matter.

### Objections to the Drawings

The drawings are objected to under 37 CFR 1.83(a). In Section 1 of the Office Action, the Examiner asserts that Fig. 3 fails to show the external temperature sensor which provides the temperature information. Appropriate amendment to Fig. 3 has been made, as described above. Withdrawal of the objection is respectfully requested.

In Section 2 of the Office Action, The Examiner also requests that the refresh circuitry as recited in claims 3, 17 and 23, the feature as recited in claim 18, an external device as recited in claim 16, and the peripheral circuitry as recited in claim 25 must be shown or the feature(s) canceled from the claim(s). Revised Fig. 3, submitted herewith, shows a temperature sensor, as requested in Section 1 of the subject Office Action. Moreover, Fig. 3 shows refresh circuitry, as requested in Section 2 of the subject Office Action. Applicants submit that Figure 3 also provides support for the feature of claim 18. The controller shown in Fig. 3 may be an external device, as recited in claim 16. The refresh circuitry shown in Fig. 3 represents a peripheral circuitry, as recited in claim 25.

Accordingly, it is believed that all elements indicated in Sections 1 and 2 of the subject Office Action are shown in the revised Fig. 3. Withdrawal of the objection is respectfully requested.

In Section 3 of the Office Action, the Examiner also objects to the drawings as failing to comply with 37 CFR 1.84(p) (5) because they do not include the reference sign(s) 304 (line 8, page 9) and 306 (line 9, page 9) mentioned in the description.

Revised Figs. 4A and 4B, submitted herewith, contain the reference signs requested by the Examiner. Withdrawal of the objection is respectfully requested.

Claim Rejections - 35 USC § 112

Claims 1, 3, 17, 20 and 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to Claim 1, the Examiner states that it is not clear how obtaining temperature can comprise reading one or more bits in a mode register since Fig. 3 of the present invention does not show any temperature sensor associated with mode register 320. Applicants submit that revised Fig. 3, submitted herewith, shows the requested temperature sensor associated with mode register 320. Withdrawal of the rejection is respectfully requested.

With respect to Claims 3, 17 and 23, the Examiner states that it is not clear how the refresh rate of the memory device can be varied since there is no refresh circuitry is shown in the drawings of the present invention. Applicants submit that revised Fig. 3, submitted herewith, shows the requested refresh circuitry. Withdrawal of the rejection is respectfully requested.

With respect to Claim 20, the Examiner states that it is not clear how a diode voltage is within one of the distinct temperature ranges since diode voltage and temperature ranges are different entities which can not be compared to each other. Applicants submit that the rejection of Claim 20 is obviated by the present amendment to Claim 20. Withdrawal of the rejection is respectfully requested.

Claim Rejections - 35 U.S.C. § 102

Claims 1, 3, 5-6, 9-14, 16-19, 21, 23 and 25-30 are, insofar as understood, rejected under 35 U.S.C. 102(e) as being anticipated by *Snyder et al.*, (U.S. Pat. No. 6,829,190, hereinafter *Snyder*). Claims 12, 21, 23, and 27 have been cancelled. With respect to the remaining claims, Applicants respectfully traverse this rejection.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference."

*Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim. *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990).

The pending claims, as amended, describe varying a level of one or more internally generated voltages based on temperature information, comprising decreasing the level of one or more internally generated voltages as device temperature increases and applying the one or more internally generated voltages to an array of memory cells of the memory device.

#### *The Cited Reference and the Examiner's Rejection*

The Examiner cites *Snyder* in rejecting the pending claims. *Snyder* relates to a method for programming a memory device, which can apply a programming voltage and programming time for a specific memory device and which can utilize the memory device temperature when calculating the programming voltage and programming time for a specific memory device. See Col. 2, Lines 50-59. The Examiner cites to *Snyder* at 5C and Fig. 5E as describing that a pulse width programming voltage will decrease as the pulse width increases.

Fig. 5C depicts two curves which represent possible temperature ranges. Col. 10, Lines 48-49. The curves may be used to vary the erase pulse widths for the memory device (the programming time) as a function of temperature. Col. 9, Lines 25-28. Accordingly, the first cited figure refers to varying a programming time, and does not refer to "varying a level of one or more internally generated voltages based on temperature information".

Fig. 5F shows that, as temperature changes from cold to hot, "the ease of Vem saturation increases". Col. 11, Lines 59-67. Vem is an erase margin voltage, e.g., a voltage which describes an intrinsic property of the die (a saturation voltage) *and not a voltage which is internally generated*. Col. 10, Line 65 – Col. 11, Line 4. With respect to Fig. 5F, *Snyder* states that the weighted average of Vem may be used to select a pulse width. Col. 11, Lines 59-67. Accordingly, the cited figure describes an erase

margin voltage *which may be used to select a pulse width* (the programming time). Col. 11, Lines 59-67. Accordingly, the section figure cited by the Examiner does not describe "varying a level of one or more internally generated voltages based on temperature information comprising decreasing the level of one or more internally generated voltages as device temperature increases and applying the one or more internally generated voltages to an array of memory cells of the memory device". Withdrawal of the rejection is respectfully requested.

Therefore, the claims are believed to be allowable, and allowance of the claims is respectfully requested.

#### Claim Rejections – Double Patenting

Claims 1-24 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-28 of Patent No. 7,009,904.

The doctrine of obviousness-type double patenting states that "[a] later patent claim is not patentably distinct from an earlier patent claim if the later claim is obvious over, or anticipated by, the earlier claim. (In re Longi, 759 F.2d at 896, 225 USPQ at 651). The application cited by the Examiner and the current application were filed on November 19, 2003. Therefore, the claims in the current application are not "later patent claims." Thus, Applicants respectfully request the obviousness-type double patenting rejection be withdrawn.

**Conclusion**

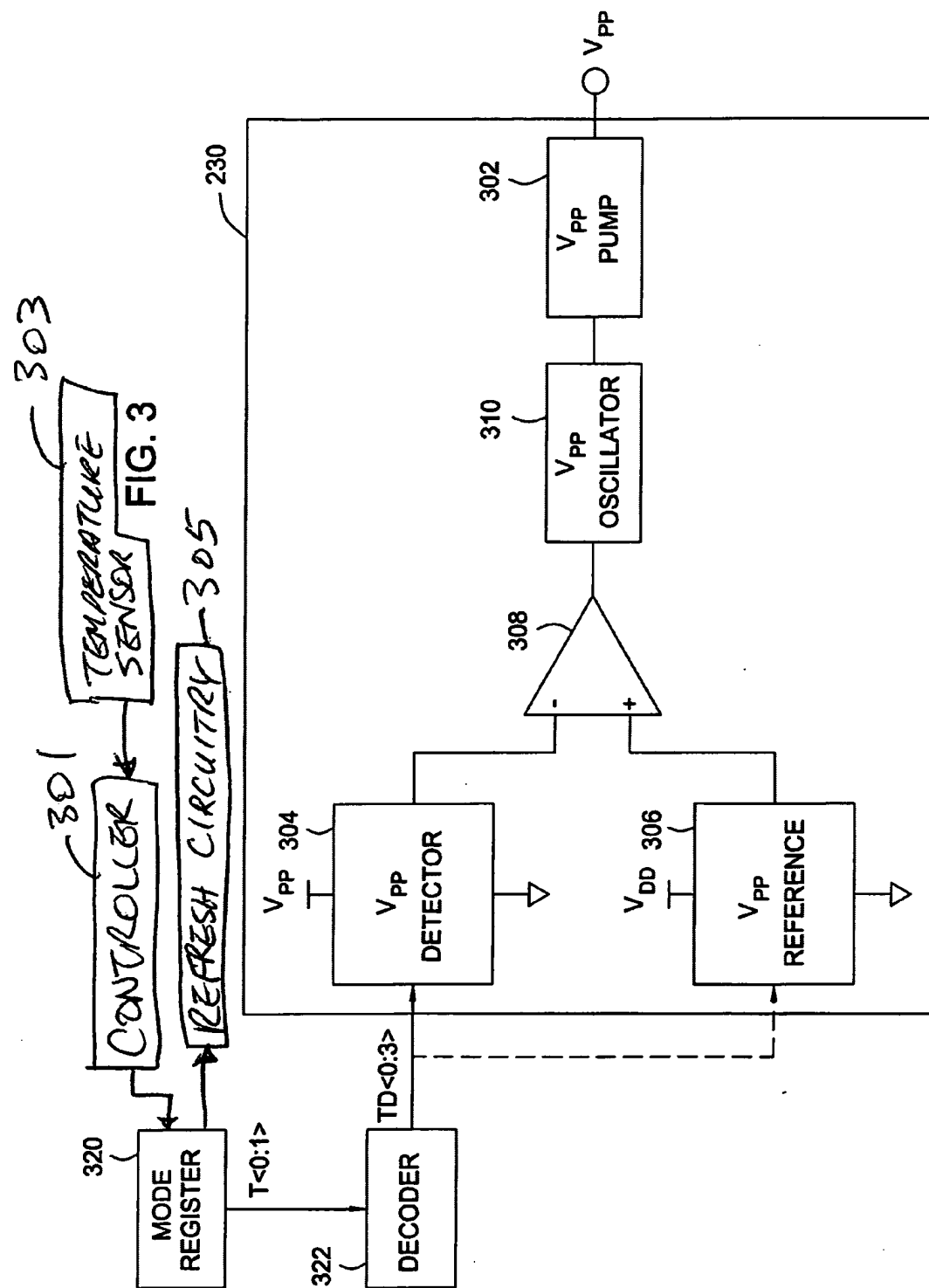
Having addressed all issues set out in the office action, Applicants respectfully submit that the claims are in condition for allowance and respectfully request that the claims be allowed.

Respectfully submitted, and  
**S-signed pursuant to 37 CFR 1.4,**

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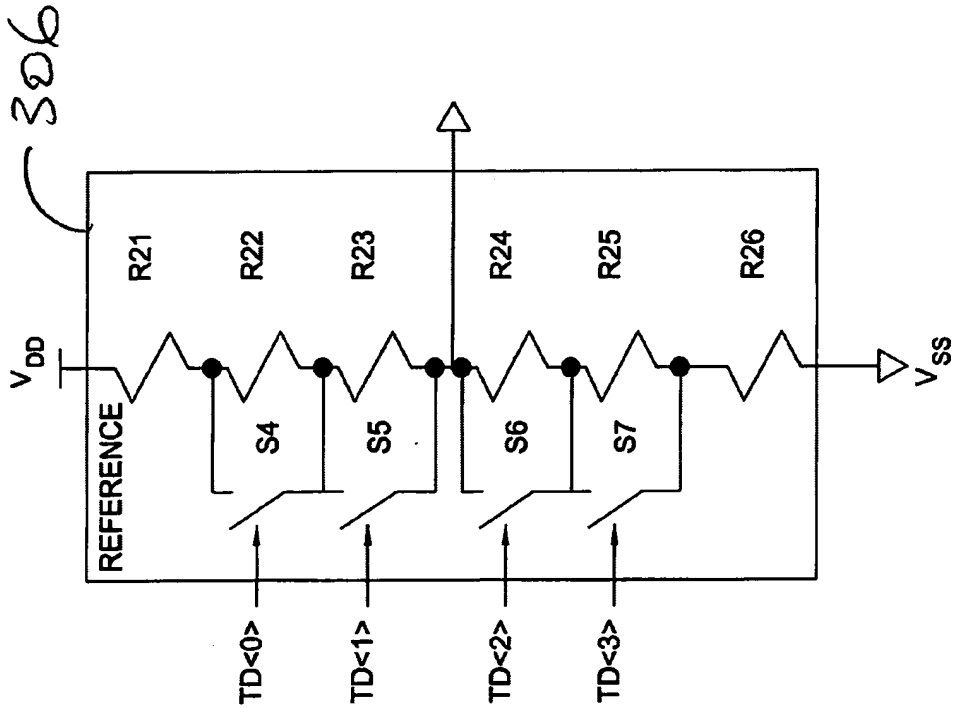


FIG. 4B

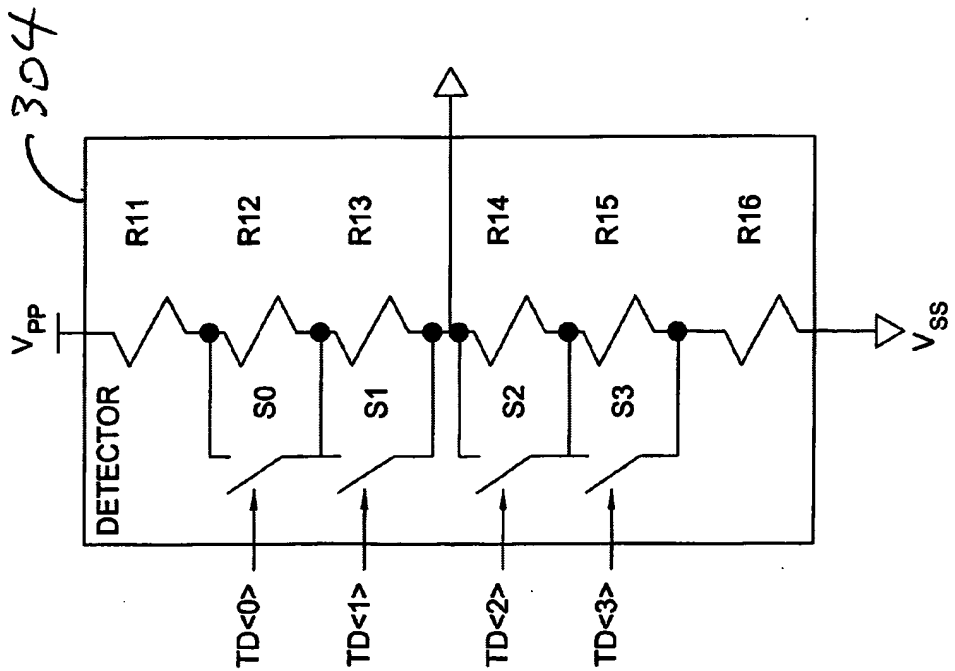


FIG. 4A